REMARKS

As of the Office action dated November 13, 2006, claims 1-15 and 17-20 are pending, with claims 1, 8-12, 14-17 and 19 being rejected, and claims 2-7, 13, 18, and 20 being objected to. In this Reply, claim 1 is amended and the rejection of claims 1, 8-12, 14-17 and 19 is traversed. Further examination and reconsideration respectfully are requested.

Claims 1 and 9-12 are Patentable Over Molitor et al. and Claims 1 and 8-12 are Patentable Over Clark

In maintaining the rejection of claims 1 and 9-12 as anticipated by Molitor et al. and of claims 1 and 8-12 as anticipated by Clark et al., the examiner focused on the meaning of the term "coupled" and stated that "'coupled' is a limitation not considered to hold much weight without the support of function (i.e., coupled to perform a certain function, drive the diode, etc.) and all of the circuit elements can be considered to be electrically coupled." Appreciative of the examiner's suggestion, applicants have amended claim 1 to recite that the laser diode is "controllable coupled through the switch-controlled circuit path to the first energy storage element ***for receiving a discharge of energy therefrom***, and to the second energy storage element ***for receiving a discharge of energy therefrom.***" As amended, claim 1 now supports the term "coupled" with a recitation of function that corresponds to applicants' prior arguments of patentability over Molitor et al. and Clark et al. As previously argued with respect to Molitor et al., for example, "current through capacitor 44 does not flow through the laser diode, but instead is used to energize the gate of the MOSFET 62." As previously argued with respect to Clark et al., for example, "capacitor 21 is nothing more than just a DC blocking capacitor within the amplifier stage ... and does not discharge current through a laser diode," and "capacitor 30 is part of the circuitry that connects the amplifier stage to the driver stage ... [and] the current flow through this capacitor does not discharge through the laser diode." Withdrawal of the rejection of amended claim 1 respectfully is requested.

Claim 1 has been further amended to provide that the first energy storage element is chargeable to a first voltage magnitude, and the second energy storage element is chargeable to a second voltage magnitude. This amendment makes clear that the first and second voltage magnitudes refer to the voltage on the respective capacitors before discharge.

Generally, since independent claim 1 as amended is patentable, all of its dependent claims also are patentable for at least the same reasons because they include all of the limitations of the independent claim. Moreover, while the dependent claims may recite additional limitations of independent patentable significance, discussion of their independent patentability is moot in view of the remarks made in connection with the independent claim.

Claims 14, 15, 17 and 19 are Patentable Over Duke et al.

The examiner has entered a new rejection over US Patent No. 3577017 issued May 4, 1971 to Duke et al. Specifically, claims 14 and 19 were rejected under 35 USC § 102(b) over Duke et al., and claims 15 and 17 were rejected under 35 USC § 103 over Duke et al. The rejections respectfully are traversed.

The Duke et al. patent discloses control of the discharge from an RLC network to provide a rectangular pulse for pulsing GaAs lasers. Several notable relationships are apparent from the disclosure.

- The capacitors C1, C2 and C3 all charge to the same voltage during the charge cycle. As stated in Duke et al., "[d]uring the charge cycle, current flows from voltage supply 6, through RLC network 4 and charging diode 8." Duke et al., column 1, lines 41-43. In other words, since only a single voltage supply 6 is used, all capacitors must charge to the same voltage (ignoring minor losses due to any leakage). The voltage to which the capacitors are charged should not be confused with the discharge profiles shown in Figures 2, 3 and 4, in which the "discharge" is through a 3 ohm dummy load; see column 2, lines 3-4.

- The relative capacitance of the three capacitors in the network is C1<C2<C3; see lines 16-18.
- The network branch containing C1 provides fast rise time and large amplitude, the network branch containing C2 (with R2) provides fast rise time with longer delay, and the network branch containing C3 (with L) provides increased rise time and more delay. FIG. 5 shows the contributions from the network branch containing C2 and R2, and from the network branch containing C3 with L.

Claims 14 and 19 recite the function of "establishing a second voltage magnitude in a second energy storage element ..., the second voltage magnitude being greater than the first voltage magnitude." This is not disclosed, taught or suggested by Duke et al., in which a single voltage supply charges all capacitors in the various branches of the network to the same voltage. The rejection of claims 14 and 19 appears to be erroneously based on the discharge profile, rather than the voltage to which each of the capacitors is charged. Withdrawal of the rejection respectfully is requested.

Claims 15 and 17 were rejected on the grounds that "it would have been obvious to one of ordinary skill in the art at the time of the invention to use multiple charge sources, instead of the single source of Duke, in order to allow for a higher degree of control over the amount of voltage applied to each part of the driving circuit." Pursuant to MPEP § 2144.03, Eighth Edition, Rev. 2, May 2004, page 2100-138, applicants hereby traverse the examiner's position of what is common knowledge or well-known in the art, and request the examiner to provide suitable documentary evidence in the next Office action if the rejection is to be maintained. Apparently satisfied with the results achieved, Duke et al. teach nothing about the need for more control over the voltage level on the capacities, or of the use of multiple voltage sources to achieve it. Moreover, no reference has been applied for any teaching or suggesting that Duke et al. might be modified with multiple voltage sources and greater control over the voltage applied to each capacitor, let alone for teaching or suggesting the specific relative level of the voltages to be established on the capacitors.

Provisional Request for an Examiner Interview

If the examiner is not prepared to enter the amendment and allow all pending claims, the examiner is respectfully requested to contact the undersigned at (952) 253-4135 to discuss any remaining issues. A copy of Form PTOL-413A is appended hereto to formalize this request.

Conclusion

In view of the foregoing amendments, it is believed that the application is now in condition for allowance. Applicants respectfully request favorable reconsideration and the timely issuance of a Notice of Allowance.

Respectfully submitted,

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